ALCOHOL AND DRUG ADDICTION
A HANDBOOK FOR GENERAL MEDICAL PRACTITIONERS

GRITO

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ALCOHOL AND DRUG ADDICTION
A HANDBOOK
FOR
GENERAL MEDICAL PRACTITIONERS

R.B. Galgali

Series Editor
Tanya Machado

INTERNATIONAL GROUP FOR RESEARCH ON DRUG ABUSE (GRITO)
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A HANDBOOK FOR GENERAL MEDICAL PRACTITIONERS

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Foreword

It is well understood that alcohol and drug abuse are major problems affecting our nation. While factual information is becoming more easily available, practical solutions to alleviate and prevent these problems are still at the "uncertain stage".

Recognizing the gravity of the problem of substance abuse, the International Federation of Catholic Universities (IFCU), created within its organization the International Group for Research on Drug Abuse, (GRITO), which has undertaken research and action programmes in Latin America and Asia since 1992. In the first phase of the research work, a diagnostic study of the problem was done. On the basis of the results of the study, a number of workshops, symposia, awareness and training programmes were conducted for different groups of persons in order to train them to deal with the problem. Community services involved preventive education, detection and treatment of alcohol and drug abuse and empowerment of the communities to manage these problems.

In order to reduce the problem of alcohol and drug abuse in our country, the demand for alcohol and drugs has to decrease. As long as the demand for alcohol and drugs continue, any success achieved in the fight against these problems can only be temporary. Preventing these problems requires persistent efforts from many disciplines, services and the community, which have to work in spirit of collaboration, recognizing and respecting each others roles.

In order to help the different sections of the community to deal with the problem, the GRITO-IFCU has published a series of manuals to help work towards drug demand reduction. The purpose of these manuals is to provide a foundation for preventive and treatment programmes. These manuals offer guidelines and not answers. It is hoped that the information provided will help in giving leads to the total management of the problem in our country.

October, 1996

Tanya Machado
Series Editor

Preface

The abuse of alcohol and illicit drugs is an increasing problem globally and the general medical practitioners need to organize their response to this problem. This booklet aims to provide a simple framework of information and practical advise on how general practitioners can effectively address issues of early identification, treatment, counselling, referral and support to the patient and his family. In the past two decades the expansion of knowledge in neurobiology has led to a better understanding of addiction, as a disease. The various etiological theories and a detailed pharmacological management of alcohol and substance dependence are beyond the purview of this booklet. However, issues concerning diagnosis of substance/alcohol abuse and management at primary level will be detailed.

October, 1996 **R. B. Galgali**

Acknowledgement

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CONTENTS

1. INTRODUCTION

To say as some doctors do, that drug/alcohol abuse is a 'social problem' is rather naive and a simplistic view point. Similarly some lay people conceptualize the doctor's role or involvement as "medicalising the problem". The various problems related to alcohol and drug abuse are neither social problems nor solely medical ones but both and a lot more.

Doctors both in urban and rural areas, regularly encounter patients who are abusing or are dependent on alcohol and/or drugs (also called substances). These patients come into contact with the doctor because of variety of reasons such as physical complications due to alcohol abuse, withdrawal symptoms resulting from alcohol/drug dependence and occasionally, secondary to psychiatric disorders brought on by alcohol or drug abuse. General physicians have a great opportunity to help such people and can be effective therapists in view of the close relationship that they enjoy with their patients and families.

Alcohol and substance abuse is an unpopular subject with many doctors, partly because of the seemingly overwhelming relapse rates and partly because of the behavioural problems that can occur when abusers come into contact with treatment services. Further these patients constitute a high risk group to develop HIV. However, long term treatment outcome of addictions are not dissimilar from other non-infectious medical illnesses, i.e., they are chronic, with frequent remissions and relapses and require life style changes. These are only partially addressed to both by the patient and the medical profession.

Alcohol and substance deaddiction services do not always demand expensive or sophisticated methods, but rather the development of simple skills and broadening of knowledge. These require networking among primary health care facilities, community organizations and specialist de-addiction services.

2. KEY CONCEPTS

Drug - Any substance that when taken into the living organism, may modify one or more of its functions (WHO-1983). The psychoactive or mind altering substances tend to be used in a manner that deviates from approved medical or social patterns.

Drug dependence - The terms that replaces 'addiction' and covers the spectrum of behaviours ranging from simple physical dependence (eg., long term benzodiazepine users), to the complete disintegration of personal and social functioning (eg., end stage alcoholics and drug users). Its extent is determined by a range of factors such as amount, frequency of use, tolerance, withdrawal, inability to abstain, degree of physical, personal and social damage.

Tolerance - This is the state in which a drug's action diminishes on repeated administration, or in other words, to get the desired effect, more and more quantity of the drug is necessary. Tolerance often develops at a different rate for different drugs.

Withdrawal - Withdrawal is signified by signs and symptoms that occur when a drug is stopped, reduced or an antagonist (Naltrexone) is given. It is invariably unpleasant and is a common reason for reuse of a drug.

Craving - Craving is the desire to get (more of) the drug and its intensity differs amongst drugs and between individuals. For example, an alcoholic will spend more and more time thinking about and engaging in drinking. This leads to a progressive reduction in participation in work and family activities.

Hangover - It is a temporary state of combination of gastritis, headache, anxiety and the loss of energy created by abuse of alcohol.

Euphoria - Euphoria is a state of pleasure produced by a drug. It is closely linked to the reinforcing effects of the drug (i.e., how likely it is to lead to continued use).

Detoxification - A supervised medicated or unmedicated withdrawal from alcohol or a drug, so that, the severity of withdrawal or rebound symptoms and medical complications are reduced to a minimum. It is a component of treatment and should not be regarded as treatment for dependence per se.

Maintenance therapy - It is a therapeutic approach using a drug, whose action substitutes for the drug of misuse. It is an important component of harm reduction (eg., opioid dependent patient put on methadone - which reduces HIV risk, crime and retains the patient in a treatment programme).

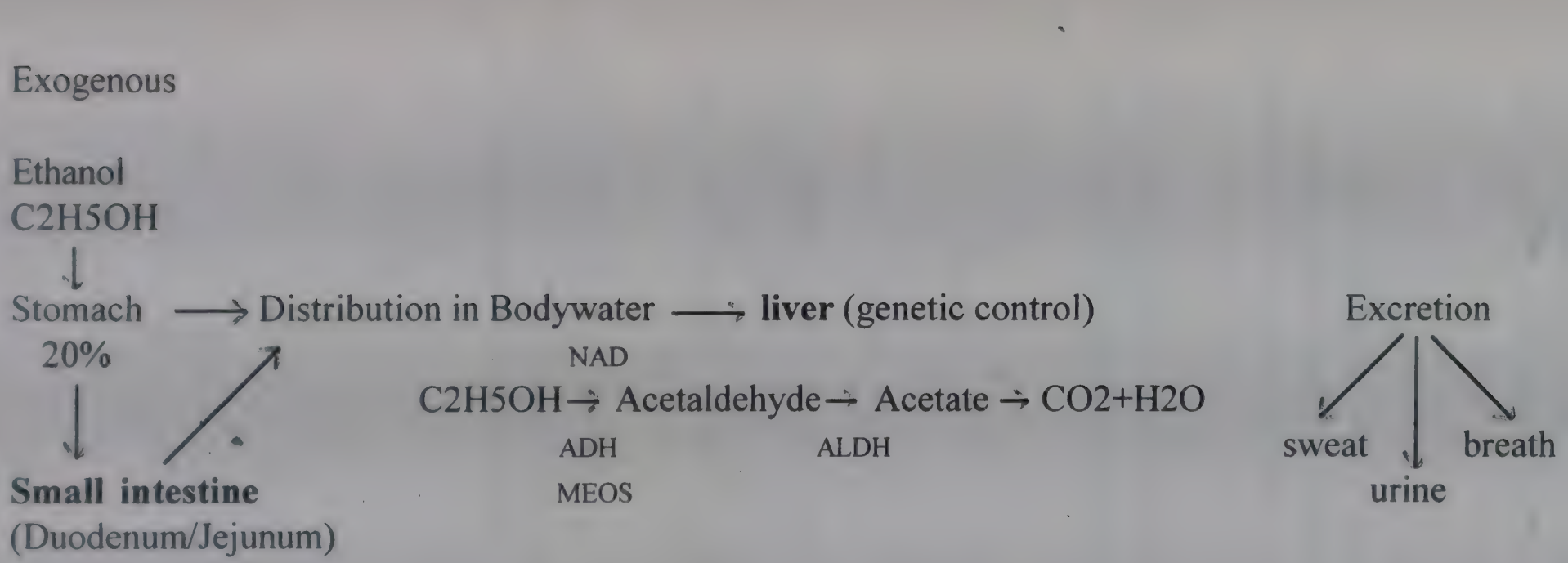
Motivation - It involves recognizing a problem, searching for a way to change, and then begining, continuing and complying with that change strategy.

3. ALCOHOL (ETHANOL)

3.1 Pharmacology

Alcohol is the main ingredient in wines, beers and distilled spirits. Although there are various alcohols, the form normally drunk as alcohol is ethylalcohol. The variations in the alcohol strength of beverages, are: beer 4-5%, wines 10-12% and spirits 40-50%.

Ethanol is primarily a CNS depressant and it depresses inhibitory mechanisms of the brain. It produces initially anxiolytic, sedative and analgesic effects, but its dependence and toxicity potential outweighs its benefits. (Fig 3.1, 3.2 & Table 3.1)



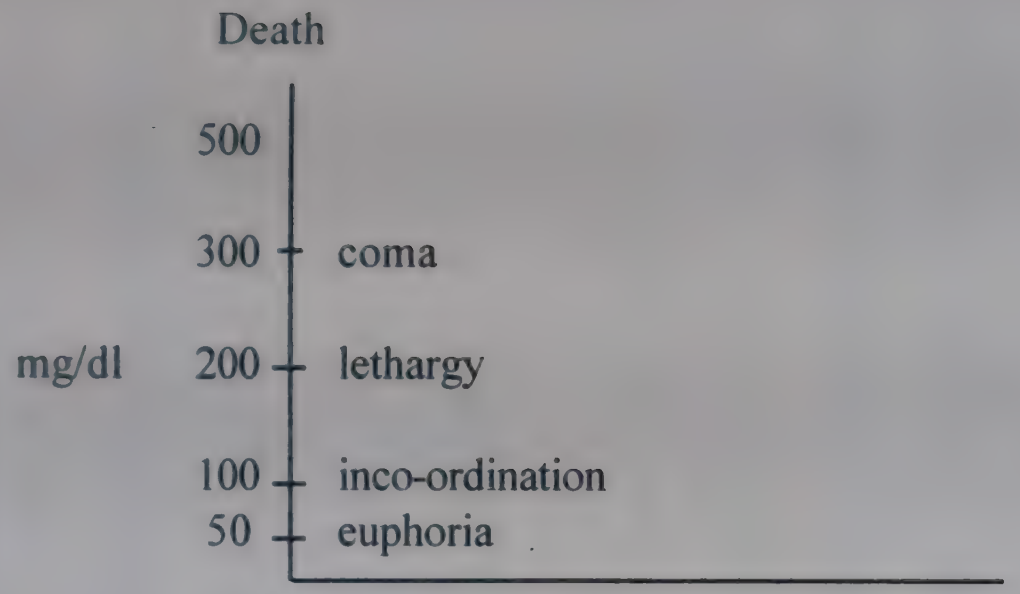
Absorption factors
food
concentration of C2H5OH
speed of ingestion
type of beverage
emptying of stomach
body weight
protein deficiency
physical exercise

Distribution factors
organ blood flow
organ water content
tissue mass
permiability

Metabolism **Excretion**
interfered by Disulfiram

ADH - Alcohol dehydrogenase
ALDH - Acetaldehyde dehydrogenase
MEOS - Microsomal ethanol oxidising system
NAD - Adenine nucleotide

Absorption, distribution and metabolism of alcohol (Fig 3.1)



Effects of various levels of alcohol in the blood (fig 3.2)

Health Risk	**Women**	**Men**	
Low	< 15 u/wk	< 20 u/wk	1 unit (u) = 8 gms
Intermediate	15 - 35 u/wk	20 - 50 u/wk	= 1/2 pint Beer (290 ml)
High	>= 36 u/wk	>= u/wk	= 125 ml Wine

Weekly alcohol consupmtion and relative health risk (Table 3.1)

3.2 Health risks

Alcohol dependence which is the primary disorder, can be responsible for a host of complications which affect the physical health, co-morbid psychiatric disorders and bring about personality changes. Bearing in mind that these secondary conditions can co-exist with alcohol/drug abuse, it is prudent to consider the frequently encountered complications.

3.2.1 Physical

Neurologic	(seizure, Wernicke's encephalopathy, neuropathy, myopathy, cerebellar degeneration)
Gastrointestinal	(oesophagitis, gastritis, pancreatitis, hepatitis, cirrhosis, hemorrhage)
Cardio vascular	(hypertension, cardiomyopathy)
Hematologic	(macrocytosis, anaemia, thrombocytopenia)
Skeletal	(fractures, osteonecrosis)
Endocrinal	(testicular atrophy, amenorrhoea, infertility, sexual dysfunction)
Nutritional	(pellagra, vitamin deficiency)
Infections	
Injuries	(abnormal bleeds, spine and chest injuries)
Pregnancy	(abortions, intrauterine growth retardation, fetal alcohol syndrome)
Malignancy	(mouth, pharynx, hepatocellular)

3.2.2 Personality changes

The early psychological disturbances are, bouts of anxiety, spells of depression, self absorption, unwarranted optimism and boastfulness. Later, neglect of personal appearance, lowering of general and ethical standards, increased accidents at home and work, easily provoked aggression, rudeness and insensitivity appear. Eventually organic brain changes occur leading to memory impairment, confused thinking, lowered intelligence and judgement.

3.2.3 Psychiatric Disorders

Hallucinating experiences can occur during intoxication or withdrawal. Blackout, depression and suicidal attempts are common. Delirium tremens (DT), can come on abruptly after sudden withdrawal of alcohol. DT is charecterised by restlessness, tremors, mental confusion, disorientation, hallucinations and autonomic hyperactivity. It is a serious condition with 5-15% mortality and hence requires inpatient care and medical supervision.

3.3 Assessment

A skillful interview and history taking form the important elements in making a diagnosis and initiation of therapy. Persons who drink heavily, tend to hide, or minimize reporting, rationalizse or deny the intake of alcohol and their dysfunctional behaviour. The clinicians who are trying to diagnose an illness in such patients, are sometimes reluctant to confront them or may have prejudicial dislike of patients who are not able to control their alcohol intake. It becomes particularly difficult in our culture to obtain a history from women patients.

Questions to avoid :

1. "You don't drink, do you?"
   Easy to pass off with a simple answer 'no' or 'not much'

2. "How much do you drink?"
   May be perceived as implied criticism which brings a defensive response.

Questions to use :

1. Along with family history of diabetes and hypertension - "Has anybody in your family ever had a drinking problem? This places the requested information in the context of medical importance to the questioner.

2. Along with enquiries about personal habits such as sleep, exercise, diet, ask, "Do you ever use any wine, beer, spirits or mixed drinks?" A non pejorative approach, hence elicits useful response.

3. In an accepting but neutral, nonjudgemental, concerned manner, ask a series of questions about the patient's past behaviour
   - When did you first start to drink?
   - How often and how much of alcohol? Then and now?

4. Positive answers to the aforementioned questions should be followed up by a brief 'CAGE' test (Bush et al., 1987). Two or more positive answers necessitate further assessment of alcohol related problems.
   - Have you ever tried to **C**ut down your drinking?
   - Have you ever been **A**nnoyed by other's criticism?
   - Have you felt **G**uilty about drinking?
   - Have you used alcohol as an '**E**ye-opener'? (first thing in the morn ing to steady your nerves or for hangover).

5. Enquire about physical and psychological withdrawal symptoms mentioned earlier - this helps in diagnosing dependence.

6. In the latter part of the interview, assess the difficulties, viz, at work place (absenteeism/injuries), at home (discord, physical or sexual abuse), financial and legal problems.

7. Ask a few questions to identify past or current psychiatric co-morbidity of depression, hypomania, mania, anxiety disorder and personality disorder. The history should be followed by a detailed physical examination to rule out various health risks described earlier. Particular

care must be taken not to miss signs of repeated trauma, I.V. needle marks, signs of liver dysfunction and anaemia. The usual positive findings on laboratory investigations are - anaemia with macrocytosis, abnormal LFT (elevated gama-glutamyl transferase), hyperuricemia and elevated triglycerides. Other diagnostic studies might include - GI radiology, endoscopy, abdominal ultrasound, liver biopsy, ECG, EEG, cranial C.T. Scan and nerve conduction studies.

3.4 Treatment and Prevention

The short term goal is to get the patient to accept treatment and minimize harm. The long term goal is to retain patients in treatment, reduce harm and stabilize life style.

Identify and manage patients with acute conditions such as intoxication, infections, seizure, hypoglycemia, injuries etc.

Identify patients with severe complications who need referral to hospital and specialist services (lung infections, active hepatitis, cirrhosis, acquired immune deficiency syndrome, delirium tremens, severe depression and psychosis).

Identify and alleviate family problems related to alcohol/drugs.

Educate and give information to promote health. Integrate primary health care work with that of other groups (school teachers, volunteers, traditional healers, parents etc.).

The initial part of most treatment programmes, that of detoxification, is the most straightforward. In a hospital or a clinic, an alcohol dependent can safely be weaned off in seven to ten days using a tapering dose of a substitute (cross-tolerant) drug viz, benzodiazepines (usually long acting - diazepam, chlordiazepoxide, in case of hepatitis - shortacting - lorazepam, oxazepam), Vitamins, particularly Thiamine (B1 - 100mg IM for 5 days and later orally, smaller dose) is used for prophylaxis against Wernicke's encephalopathy (ataxia, ophthalmoplegia, confusion, nystagmus).

Although people with mild to moderate withdrawal symptoms can be detoxified on an outpatient basis, there is a risk of a non-compliance with treatment due to accessibility of alcohol and a risk of abusing both benzodiazepines and alcohol. Other necessary components include a quiet and supportive environment, counselling, reassurance, family and social support and access to medical assistance.

Inpatient medically assisted detoxification, is needed by those at greatest risk of delirium tremens, seizures, hematemesis and concurrent medical or psychiatric disorders that may complicate management. Corticosteroids have no place in the treatment and generally it is better to avoid neuroleptic drugs (chlorpromazine, haloperidol), which carry the risks of extrapyramidal side effects, hypotension, seizure and inducing hyperpyrexia. It is better to give thiamine (B1), before starting I.V glucose/dextrose drips. However, these drips are at best to be avoided in view of the risk of Wernicke's encephalopathy and central pontine myelinolysis.

Detoxification should be followed by health education, counselling, motivation enhancement, regular follow up and modification of life style. A regular daily use of the drug Disulfiram (antabuse), can make a person very ill when they consume alcohol. Hence it has a role to play as a deterrent for some, who on their own volition wish to take it. Alcoholic anonymous is a self-help group which gives support to patients and suggest strategies to deal with themselves and their alcoholism.

The process of change can be mediated through increasing the level of awareness, education, interpretation, confrontation and feed back. The phases of intervention begin with creating therapeutic alliance, instilling commitment to change and achieve change through a negotiated approach. Change is however rarely spontaneous and is often brought about by interactional and social processes. Various levels of prevention must receive mass attention to reduce the ever-rising casualties of alcohol abuse. Primary prevention aims to reduce the incidence of new cases of alcohol abuse or dependence, by reducing the consumption through health promotion, education, counselling, and early diagnosis of

psychiatric disorders such as anxiety and targeting high risk groups. Secondary prevention aims to detect cases of alcohol dependence early and treat them through counselling and detoxification. Tertiary prevention aims to avoid further disabilities and attempts to reintegrate patients with severe alcohol problems into society.

4. OTHER SUBSTANCES

4.1 Pharmacology

They can be broadly classified as **opioids** (morphine, pethidine, heroin, tidigesic etc); **cannabinoids** (ganja, charas), **sedatives** or hypnotics (benzodiazepines, barbiturates); **stimulants** (amphetamines caffeine, cocaine, sympathonimetics), **hallucinogens** (LSD, PCP); **tobacco**; **volatile** solvents (paints, glue)and anabolic **steroids**.

The process of addiction involves alterations in the brain function as the abused drugs are neuroactive substances that alter brain transmitters (endorphin, encephalin, gammaamino butyric acid (GABA), acetylcholine, dopamine, glutamate, serotonin and epinephrine), interaction with receptors or transporter sites. The faster the drug enters the brain, the more reinforcing it is. This depends on lipid solubility of the drug and the route of administration (oral vs smoking, sniffing, intravenous)

4.2 Health risks

Neurological	(seizure, peripheral neuropathy, cerebrovascular accidents)
Gastrointestinal	(gastritis, hepatitis)
Cardiovascular	(endocarditis, arrhythmias, pulmonary embolism, thrombophlebitis)
Infections	(pulmonary, HIV, hepatitis B, C).
Miscellaneous	(anaemia, pulmonary edema, injuries).
Psychiatric	(anxiety, panic, depression, suicide, delirium, psychosis).
Overdose	(respiratory depression, cardiac arrhythmias, seizures, coma).

4.3 Assessment

The routine clinical enquiries should include the pattern of use (type of substance, single or multiple drugs, amount, source, frequency, route of use), substance specific intoxication or symptoms of withdrawal (refer appendix i), sexual habits and trauma. It is also necessary to assess for underlying psychiatric disorders, current psychosocial stressors, legal difficulties and the treatment success in the past.

A thorough physical examination is mandatory and one should specifically look for level of consciousness, signs of liver dysfunction, peripheral neuropathy, anaemia, endocarditis, thrombophlebitis and needle marks.

The laboratory tests such as urine screening for drugs and their metabolites are expensive and are not routinely available.

4.4 Treatment

The main purposes of intervention are harm minimization, beginning of abstinence and control of relapses. The treatment involves pharmacologically assisted detoxification, medication substitution (opiates, sedatives) treatment of "bad trips" (LSD), management of delirium (inhalants) and of associated medical and psychiatric disorders.

4.4.1. Withdrawal

All substances have psychological withdrawal syndromes and some of them have physical withdrawal reactions. The severity of withdrawal depends on many factors viz, duration of dependence, current dose of substance, route, plasma half life of the substance, additives, etc.,

Narcotic withdrawal is achieved swiftly in hospitals by using a category of drug known as adrenergic antagonists (clonidine), the use of which needs careful monitoring. A slower form of withdrawal involves giving a safer substitute (methadone), in steadily reducing doses. In addition,

analgesic and sedative medication may be used as needed. The management of psychological withdrawal involves the exploration of the underlying social, psychological and personality problems.

4.4.2. Maintainence therapy

After detoxification, in order to prevent progression or relapses, maintaining patients on safer substitute medication (Methadone), forms part of the long-term management programme. This is used mainly in the management of opioid drug. Naltrexone can be used to prevent relapses because of its property of blocking the effect of opioids on central nervous system and the reduction of craving. In addition, counselling and behaviour therapy are often required to resolve psychological problems associated with drug abuse.

4.5 Prevention

Identify abusers (street abusers, patients with chronic pain syndromes, medical staff with easy access to narcotics).

Use narcotics only to minimize effects of pain on function, rather than to abolish pain. Also suggest nonmedical approaches to pain control.

Proper oral preparation of psychoactive therapeutic drugs are preferred to parenteral preparation.

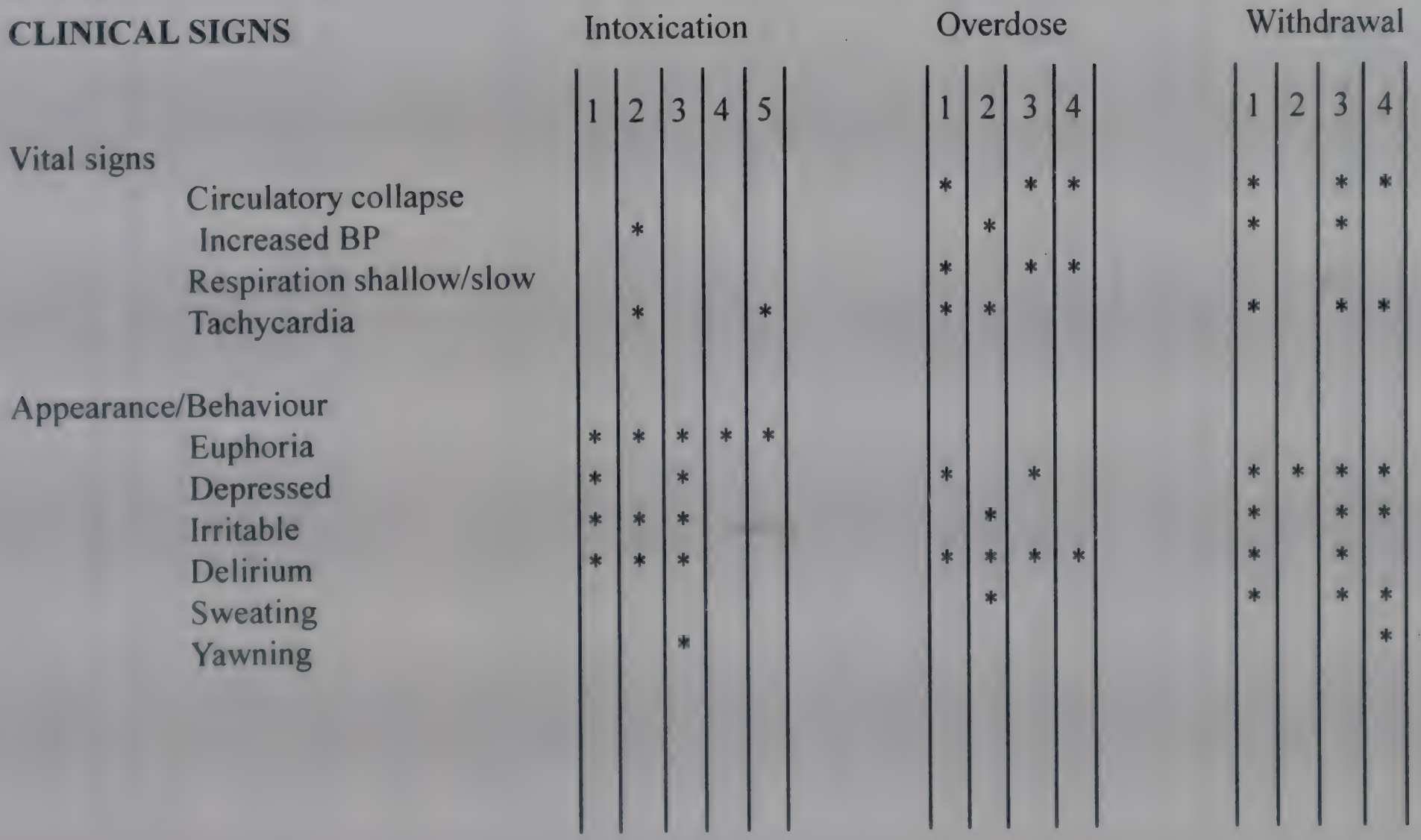
Conclusion

The identification of vulnerable individuals will allow targetting preventive measures whilst understanding of molecular mechanisms should improve treatment approaches.

Success is not associated with novel or unusual interventions. It is the product of personalised advise and assistance, repeated in different forms by several sources, over the longest feasible period (Kottke et al., 1988).

Appendix i

CLINICAL SIGNS



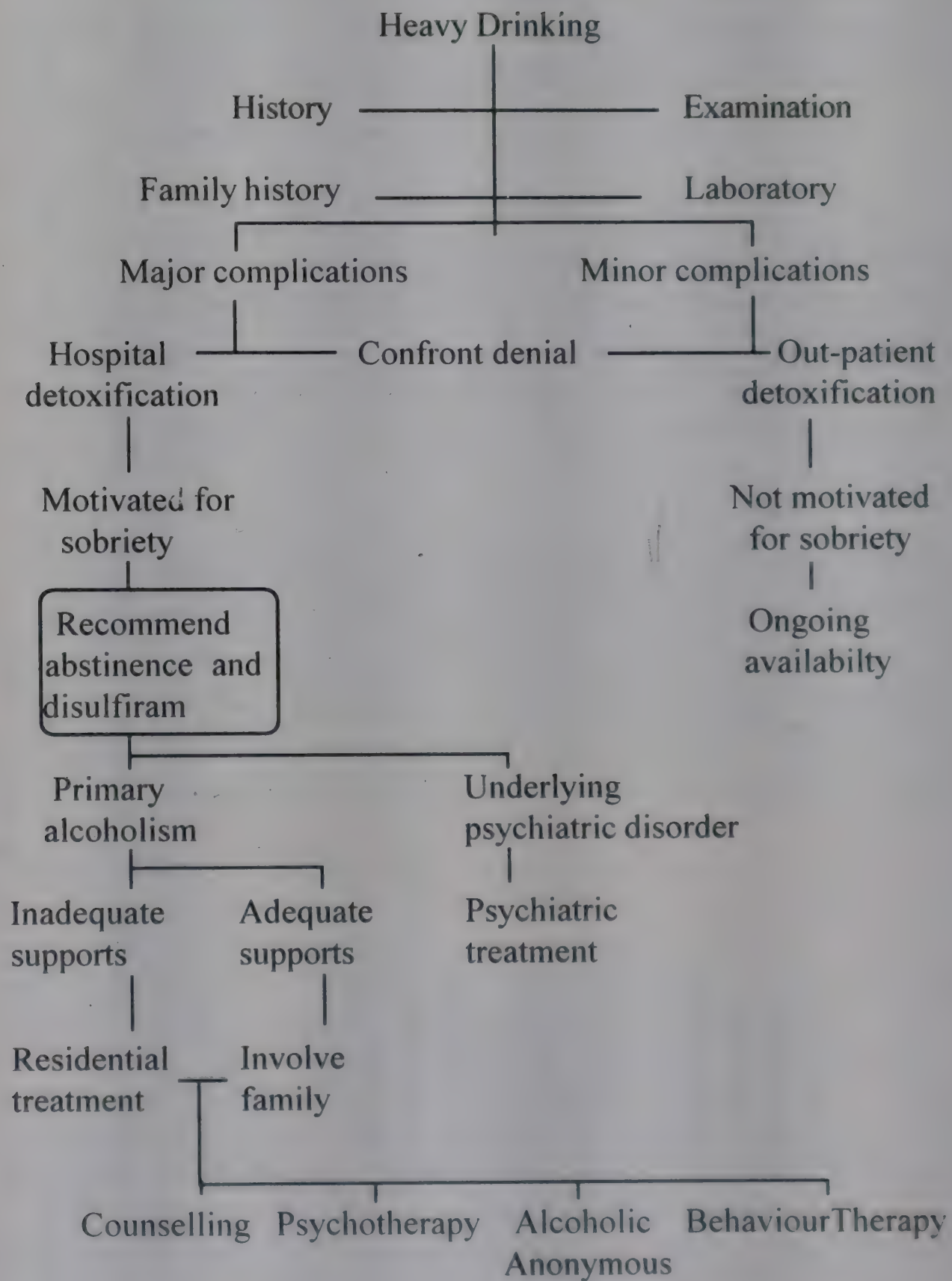
		1	2	3	4	5	1	2	3	4	1	2	3	4
Eyes/ENT														
	Dry mouth		*					*						
	Nystagmus	*		*			*		*		*			
	Pupil-dilated		*				*	*	*	*				*
	Pupil-pinpoint			*						*				
CNS														
	Coma						*		*	*				
	Convulsions			*			*	*	*	*	*	*		*
	Hypotonia	*		*	*		*		*	*		*		
	Brisk Reflexes		*					*			*		*	*
	Speech Slurred	*		*	*		*		*	*				
	Tremor	*	*	*				*			*		*	*
Skin														
	Flushing	*					*	*		*	*		*	
	Piloerection													*

Note : 1 - Alcohol, 2 - Stimulants, 3 - Sedative, 4 - Opiates, 5 - Hallucinogen

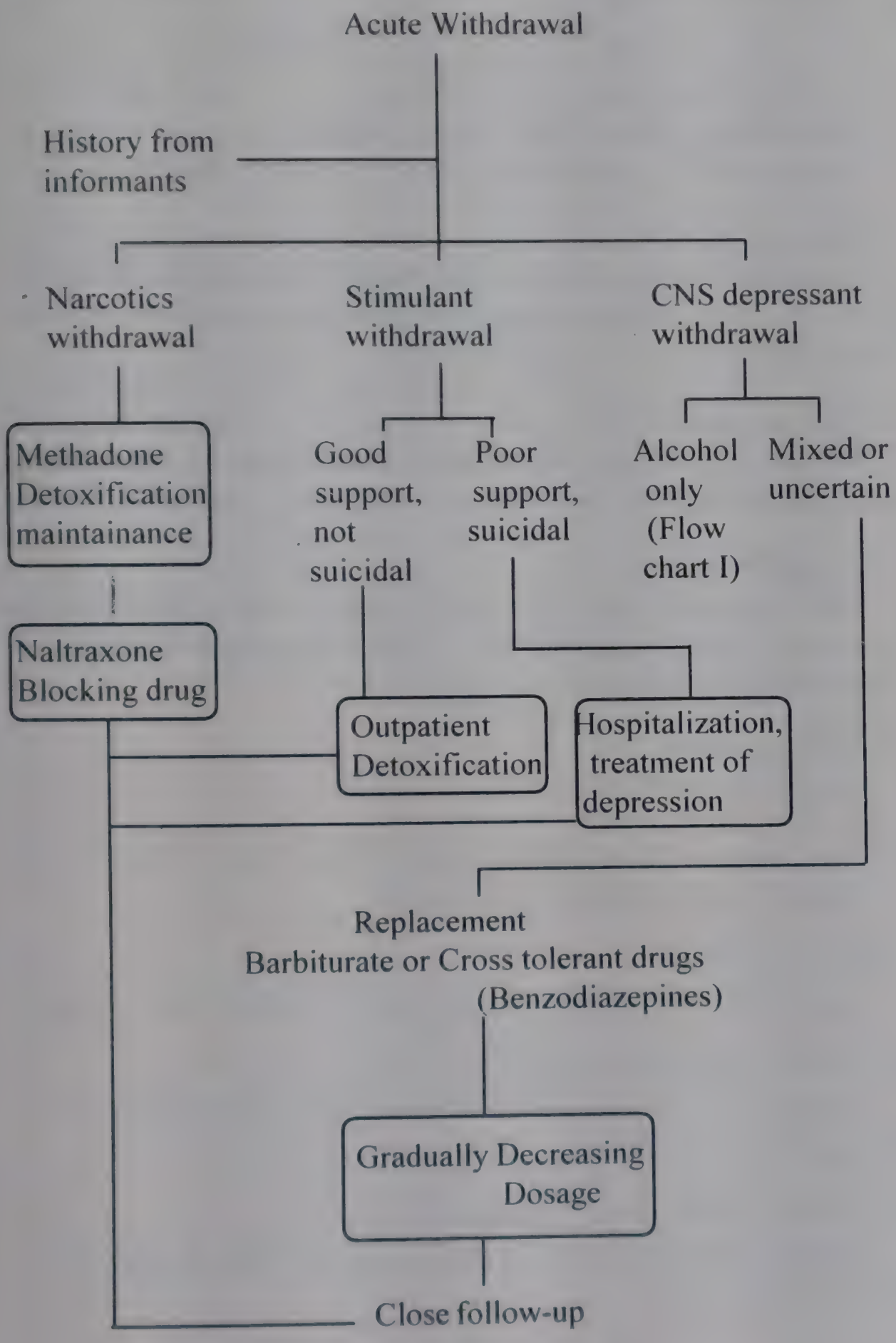
Adapted from Westermeyer, J: Primer on Chemical Dependency: A Clinical Guide to Alcohol and Drug Problems; Williams and Wilkins, Baltimore, 1976.

Appendix II

FLOW CHART I



FLOW CHART II



Appendix III

Special clinical problems

1. Person presenting with acute alcoholic intoxication
   - less stimulating, quiet environment helps
   - coffee, cold water etc are not really useful
   - sedation with medicines pose risk of respiratory depression.

2. Violence
   - unless there is clear prexisting mental disorder, only an intoxicated patient who is violent is not a psychiatric problem. He/she should be dealt with by the police or as appropriate.

3. Unwilling patient
   - it is easier to involve them during physical ill-health or while mild to moderately intoxicated

4. The suicidal patient
   - under intoxicated state it is a difficult problem particularly when no one else has accompanied/willing to supervise patient till he/she becomes sober. A close watch is essential.

5. Psychotic patient
   - need to manage the underlying condition.

6. The alcohol patient with severe jaundice/hematemesis/seizure
   - requires hospitalisation/ investigation

7. HIV infection risk
   - because of failure of universal precautions during intoxicated states.

8. Abuse of prescription drugs
   - difficult patients with personality disorders have high risk of abusing prescription drugs.

9. Frequent visit for sleeping pills/pain
   - doctors should be careful in prescribing and identify those who attempt to abuse.

10. Relapses

- quiet common, can be helped still, not an indicator of failure of treatment or poor motivation.

11. Poor follow up

- involve family members or friends. Contact through letter or telephone.

12. Disulfiram (Antabuse) given to patient without his knowledge

- It can be dangerous, hence family members to be advised against the practices of giving this drug mixed with food.

13. Disulfiram and alcohol reaction

- patient presents with abdominal pain, vomiting, paplitations, giddiness, low BP. Patient needs frequent monitoring of BP, reassur-ance and an I.V. line. Sometimes hospitalisation may be necessary.

Appendix IV

Addresses for advice, help and information in Bangalore

1. Anjaneya Medical Mission &
   Aum Research Division,
   17 KM, Off Tumkur Road,
   (Near Arkavati Ceramic Products)
   Oderahalli,
   Bangalore North Taluk.

2. Alcoholics Anonymous,
   P.O. Box No. 5438, GPO,
   Bangalore - 560 001.

3. Bosco Yuvadaya,
   91, B Street, 6th Cross, Gandhinagar,
   Bangalore.

4. CAIM,
   12 KM, Bannerghatta Road,
   Hulimavu Village,
   Bangalore - 560 076.

5. CREST,
   71, North Road,
   St. Thomas Town,
   Bangalore - 560 084.

6. Deaddiction Unit,
   NIMHANS,
   Hosur Road,
   Bangalore.

7. Divyashree,
   Deaddiction centre,
   No. 744, 15th Cross, VI Phase,
   J.P. Nagar,
   Bangalore.

8. Freedom Foundation,
   9/13, Karamchand Layout,
   Lingarajapuram,
   Bangalore.

9. HOPE,
   Claretian Seminary
   28/12, 18th Cross Road,
   Malleswaram West,
   Bangalore - 560 055.

10. Serenity Counselling Centre,
    Cox town,
    Bangalore - 560 005.

11. SPARSHA,
    290, 37 B Cross,
    26th Main, 9th Block,
    Jayanagar,
    Bangalore - 560 069.

12. St. John's Medical College Hospital,
    Department of Psychiatry,
    Bangalore.

13. TRADA
    Deaddiction and Counselling Centre,
    Carmelaram P.O.
    Carmelaram
    Bangalore - 560 035.

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The International Federation of Catholic Universities (IFCU), through its Centre for Coordination of Research, has promoted international and interdisciplinary research projects in diverse areas of human sciences. It promotes the scientific and social expertise of universities for effecting social change.

The International Group for Research on Drug Abuse (GRITO), demonstrates the response made by the universities to the challenges posed by drug abuse. It has brought into action the scientific, social and cultural resources of higher education and has generated scientifically guided preventive strategies that accommodate themselves to the local cultures.